**IN THE CLAIMS**

1. (Currently Amended)   A   communication   method   for   a plurality of communication terminals sharing a single channel to permit   a   communication   terminal   to   communicate   at   a predetermined communication cycle while avoiding a collision with an other communication terminal, comprising:

a communication timing registering step for allocating communication timing of a communication terminal intending to start   a   communication   within   said   communication   cycle;   upon start-up of the communication; and

a notifying step for notifying other communication terminals sharing said channel of the allocated communication timing;

whereby said notifying is performed for each iteration of said communication cycle.

2.   (Previously   Presented)   The   communication   method according to claim 1, wherein

at   least   one   communication   control   unit   for controlling said communication cycle is provided in a network comprised of the plurality of communication terminals sharing said channel,

said   communication   control   unit,   when   said communication   terminal   intending   to   start   communication transmits an allocation request for said communication timing to said communication control unit, executing said communication timing registering step and executing said notifying step.

3. (Original)  The communication method according to claim 1,  wherein said communication terminal intending to start

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communication allocates its own communication timing by itself to execute said communication timing registering step and execute said notifying step.

4. (Currently Amended)  The communication method according to claim 1, wherein a real time region for communicating real time data ~~such as voice data and image data~~ based on the allocated communication timing and a random access region for communicating data at random timing are provided by dividing said communication cycle into two sections.

5. (Original)  The communication method according to claim 4, wherein said real time region is set up successively in said communication cycle corresponding to said communication timing allocated while a remaining region of said communication cycle is used as said random access region.

6. (Original)  The communication method according to claim 4, wherein if the real time data transmitted through said real time region is not received properly, said real time data not received properly is re-transmitted through said random access region.

7. (Previously Presented)  The communication method according to claim 1, wherein said channel uses a carrier of a same predetermined frequency and avoiding a collision is carried out by detecting presence or absence of said carrier.

8. (Previously Presented)  A communication method for a plurality of communication terminals sharing a single channel to communicate bi-directionally between a call terminal that is a communication terminal for calling and a mating terminal that is a communication terminal called by said call terminal at a

predetermined communication cycle while avoiding a collision of use with other communication terminals, comprising:

a calling step for said call terminal to call said mating terminal by random access;

a responding step for said mating terminal to respond to said call terminal when accepting a call from said call terminal;

a communication timing allocation step for allocating communication timing for said call terminal and said mating terminal in said communication cycle, when said response arises corresponding to said call; and

a notifying step for notifying the allocated communication timing to other communication terminals sharing said channel,

said call terminal and said mating terminal executing bi-directional communication by executing transmission based on the corresponding communication timing at every communication cycle.

9. (Previously Presented)    The    communication    method according to claim 8, wherein

at    least    one    communication    control    unit    for controlling said communication cycle is provided in a network comprised of the plurality of communication terminals sharing said channel,

further comprising a timing allocation request step for said call terminal, if a response to said call arises from said mating terminal, to form an allocation request for

requesting to allocate said communication timing to both itself and said mating terminal and to transmit to said communication control unit,

said communication control unit executing said communication timing allocation step and said notifying step corresponding to said allocation request.

10. (Original) The communication method according to claim 8, wherein when a response to said call terminal is returned from said mating terminal, said call terminal itself carries out said communication timing allocation step and said notifying step.

11. (Currently Amended) The communication method according to claim 8, wherein a real time region for transmitting real time data ~~such as voice data and image data~~ based on the allocated communication timing and a random access region for transmitting data at random timing are provided by dividing said communication cycle into two sections.

12. (Original) The communication method according to claim 11, wherein said real time region is set up successively in said communication cycle corresponding to said communication timing allocated while a remaining region of said communication cycle is used as said random access region.

13. (Original) The communication method according to claim 11, wherein if the real time data transmitted through said real time region is not received properly, said real time data not received properly is re-transmitted through said random access region.

14. (Previously Presented) The communication method according to claim 8, wherein said channel uses a carrier of a

same predetermined frequency and avoiding a collision is carried out by detecting presence or absence of said carrier on said channel.

15. (Previously Presented)  A communication method for a plurality of communication terminals sharing a single channel to communicate at a predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

a communication order allocating step for allocating communication order to a communication terminal intending to start a communication, upon start-up of the communication;

a notifying step for notifying the allocated communication order to other communication terminals sharing said channel;

an empty time setting step for setting a length of empty time in said channel capable of starting transmission of data corresponding to the allocated communication order in said communication terminal to which said communication order is allocated; and

a data transmitting step for transmitting data, when emptiness of the same length as said empty time set up in said empty time setting step is detected on said channel in said communication terminal to which said communication order is allocated.

16. (Original) The communication method according to claim 15 further comprising:

a data transmission detecting step for detecting whether or not a communication terminal having a higher

communication order than itself transmits data in each of said communication terminals to which said communication order is allocated; and

an empty time reduction step for reducing said empty time set in said empty time setting step corresponding to the allocated communication order when it is detected that a communication terminal having a higher communication order than itself transmits data in said data transmission detecting step.

17. (Original) The communication method according to claim 15, wherein

at least one communication control unit for controlling said communication order is provided in a network comprised of plural connected communication terminals sharing said channel,

said communication control unit, when said communication terminal intending to start communication transmits an allocation request for said communication order to said communication control unit, executing said communication order allocation step and executing said notifying step.

18. (Original) The communication method according to claim 15, wherein said communication terminal intending to start communication allocates its own communication order by itself to execute said communication order allocating step and execute said notifying step.

19. (Currently Amended) The communication method according to claim 15, wherein a real time region for communicating real time data ~~such as voice data and image data~~ based on the allocated communication order and a random access region for

transmitting data at random timing are provided by dividing said communication cycle into two sections.

20. (Original) The communication method according to claim 19, wherein said real time region is set up successively in said communication cycle corresponding to said communication order allocated while a remaining region of said communication cycle is used as said random access region.

21. (Original) The communication method according to claim 19, wherein

if the real time data transmitted through said real time region is not received properly, said real time data not received properly is transmitted bi-directionally between the call terminal and a mating terminal which is said communication terminal, comprising:

a calling step for said call terminal to call said mating terminal of an object by random access;

a responding step for said mating terminal to respond to said call terminal when accepting a call from said call terminal; and

a communication order allocation step for, if said response arise corresponding to said call, allocating communication orders for said call terminal and said mating terminal,

each of the allocated communication orders being re-transmitted through other communication random access regions sharing said channel.

22. (Original) The communication method according to claim 15, wherein said channel uses a carrier having a same predetermined frequency and detection of the empty time in said channel is carried out by detecting absence of said carrier.

23. (Previously Presented)    A    communication    method comprising:

a notifying step for a plurality of communication terminals sharing a single channel to notify a call terminal which is said communication terminal for calling and a mating terminal that is a communication terminal called by said call terminal at a predetermined communication cycle while avoiding a collision with an other communication terminal;

an empty time setting step for setting length of empty time in said channel capable of starting transmission of data corresponding to the allocated communication order in said communication terminal to which said communication order is allocated; and

a data transmitting step for transmitting data, when emptiness of the same length as said empty time set up in said empty time setting step is detected on said channel in said communication terminal to which said communication order is allocated,

said call terminal and said mating terminal executing bi-directional communication by executing transmission at each corresponding communication order at every communication cycle.

24. (Original) The communication method according to claim 23 further comprising:

a data transmission detecting step for detecting whether or not a communication terminal having a higher communication order than itself transmits data in each of said communication terminals to which said communication order is allocated; and

an empty time reduction step for reducing said empty time set in said empty time setting step corresponding to the allocated communication order when it is detected that a communication terminal having a higher communication order than itself transmits data in said data transmission detecting step.

25. (Original) The communication method according to claim 23, wherein

at least one communication control unit for controlling said communication cycle is provided in a network comprised of plural connected communication terminals sharing said channel,

said call terminal forms, if a response to said call arises from said mating terminal, an allocation request for requesting to allocate said communication order to both itself and said mating terminal, executing a timing allocation request step for transmitting to said communication control unit, and

said communication control unit executes said communication order allocation step and said notifying step corresponding to said allocation request.

26. (Original) The communication method according to claim 23, wherein when a response to said call terminal is returned from said mating terminal, said call terminal itself carries out said communication timing allocation step and said notifying step.

27. (Currently Amended)   The communication method according to claim 23, wherein a real time region for transmitting real time data ~~such as voice data and image data~~ based on the allocated communication order and a random access region for transmitting data at random timing are provided by dividing said communication cycle into two sections.

28. (Original) The communication method according to claim 27, wherein said real time region is set up successively in said communication cycle corresponding to said communication order allocated while a remaining region of said communication cycle is used as said random access region.

29. (Original) The communication method according to claim 27, wherein if the real time data transmitted through said real time region is not received properly, said real time data not received properly is re-transmitted through said random access region.

30. (Original) The communication method according to claim 23, wherein said channel uses a carrier of a same predetermined frequency and detection of emptiness in said channel is carried out by detecting absence of said carrier on said channel.

31. (Currently Amended)   A communication system comprising:

at least one communication control unit and plurality of other communication terminals sharing a single channel and said plurality of other communication terminals communicate at a predetermined communication cycle while avoiding a collision with other communication terminals,

each of said plurality of communication terminals including:

allocation request means for, upon start-up of communication, generating a communication timing allocation request and transmitting this to said communication control unit; and

transmission control means for transmitting data at communication timing allocated by said communication control unit at every communication cycle,

said communication control unit including:

means for controlling said communication cycle;

communication timing allocation means for allocating said communication timing to said communication terminal of a requester corresponding to said allocation request from each of said plural communication terminals; and

communication timing notifying means for transmitting said communication timing allocated by said communication timing allocation means to each of said plural communication terminals;

whereby said notifying is performed for each iteration of said communication cycle.

32. (Currently Amended) The communication system according to claim 31, wherein

each of said plurality of communication terminals has a random access control means for,

if data to be transmitted is real time data such as voice data and image data, transmitting said real time data by said transmission control means based on said communication timing set up by said communication control unit corresponding to said allocation request, and

if data to be transmitted is random data generated at random, transmitting through random access region other than the real time region for transmitting said real time data in said communication cycle.

33. (Original) The communication system according to claim 32, wherein

said real time region for transmitting said real time data is set up successively in said communication cycle each time when said communication timing is set up by said communication control unit,

said random access control means using a remaining portion of said communication cycle in which said real time region is set up as said random access region.

34. (Original) The communication system according to claim 32 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said transmission control means is not received properly, re-transmitting said real time data not transmitted properly through said random access region.

35. (Original) The communication system according to claim 32, wherein

said shared channel uses a carrier having a same predetermined frequency,

each of said plural communication terminals having a carrier detecting means for detecting presence or absence of said carrier on said channel and avoiding a collision of use of said shared channel corresponding to this detection result.

36. (Previously Presented) A communication system comprising:

at least a communication control unit and a plurality of other communication terminals sharing a channel and each of said plurality of communication terminals carries out bi-directional communication at every predetermined communication cycle while avoiding a collision of use of said channel with other communication terminals,

each of said plural communication terminals having

communication request means for forming a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

allocation request means for, if a response is returned from said mating terminal corresponding to said communication request formed by said communication request means, forming an allocation request of communication timing for itself which is a call terminal and said mating terminal and transmitting this to said communication control unit;

responding means for, when responding to a communication request transmitted to itself, forming a response to be returned to the call terminal and transmitting this to said call terminal; and

transmission control means for transmitting data corresponding to communication timing for self from said communication control unit,

said communication control unit having:

means for controlling a communication cycle;

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communication timing allocation means for allocating said communication timing to said call terminal and said mating terminal corresponding to said allocation request of the communication timing to said call terminal and said mating terminal from said call terminal; and

communication timing notifying means for notifying each of said plural communication terminals of said communication timing allocated by said communication timing allocation means.

37. (Currently Amended)  The communication system according to claim 36, wherein each of said plural communication terminals has

random access control means for, when it is intended to transmit real time data ~~such as voice data and image data~~, transmitting data based on said communication timing by a control of said transmission control means, and when it is intended to transmit random data generated at random by random access, transmitting the random data through a random access region other than the real time region for transmitting said real time data within said communication cycle.

38. (Original) The communication system according to claim 37, wherein

said real time region for transmitting said real time data is set up successively each time when said communication timing is set up by said communication control unit, and

said random access control means of said communication terminal uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

39. (Original) The communication system according to claim 37, wherein each of said plural communication terminals comprises a re-transmission control means for, if said real time data transmitted through said real time region by a control of said transmission control means is not received properly, re-transmitting said real time data not transmitted properly to said mating terminal through said random access region.

40. (Original) The communication system according to claim 36, wherein

said channel uses a carrier having a same predetermined frequency, and

each of said plural communication terminals has a carrier detecting means for detecting presence or absence of said carrier on said channel and avoiding a collision of use of said shared channels corresponding to this detection result.

41. (Previously Presented)    A    communication    system comprising:

at least a communication control unit and a plurality of communication terminals sharing a channel and each of said plural communication terminals carries out communication at every predetermined communication cycle while avoiding a collision of use of said channel with other communication terminals,

each of said plural communication terminals having:

allocation request means for, upon start-up of communication, generating a communication order allocation request and transmitting this to said communication control unit;

empty time setting means of setting the length of an empty time of said channel capable of starting transmission of data corresponding to said communication order allocated by said communication control unit; and

data transmitting control means for, if emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel, transmitting data from itself,

said communication control unit including:

means for controlling said communication cycle;

communication order allocation means for allocating said communication order to said communication terminal of a requester corresponding to said allocation request from each of said plural communication terminals; and

communication order notifying means for transmitting said communication order allocated by said communication order allocation means to each of said plural communication terminals.

42. (Previously Presented)          The          communication          system according to claim 41, wherein

each of said plurality of communication terminals has data transmission detecting means for detecting whether a communication terminal having a higher communication order than itself transmits data, and

when said data transmission detecting means detects that a communication terminal having a higher communication order than itself transmits data, said empty time setting means

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resets said empty time set in itself shorter corresponding to said communication order allocated.

43. (Currently Amended)  The communication system according to claim 41, wherein

each of said plural communication terminals has a random access control means for,

if data to be transmitted is real time data~~ such as voice data and image data~~, transmitting said real time data by said data transmission control means based on said set up empty time, and

if data to be transmitted is random data generated at random, transmitting through random access region other than the real time region for transmitting said real time data within said communication cycle.

44. (Original) The communication system according to claim 43, wherein

said real time region for transmitting said real time data is set up successively each time when said communication order is set up by said communication control unit in said communication cycle, and

said random access control means uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

45. (Original) The communication system according to claim 43 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said data transmission control means is not received

properly, re-transmitting said real time data not received properly through said random access region.

46. (Previously Presented)     A     communication     system comprising:

at least a communication control unit and a plurality of communication terminals sharing a channel and each of said plurality of  communication terminals carries out bi-directional communication at every predetermined communication cycle while avoiding a collision of use of said channel with other communication terminals,

each of said plural communication terminals having

communication     request     means     for     forming     a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

allocation request means for, if a response is returned from said mating terminal corresponding to said communication request formed by said communication request means, forming an allocation request of communication order for itself which is a call terminal and said mating terminal and transmitting this to said communication control unit;

responding means for, when responding to a communication request transmitted to itself, forming a response to be returned to the call terminal and transmitting this to said call terminal;

empty time setting means of setting the length of an empty time of said channel capable of starting transmission of data corresponding to said communication order allocated by said communication control unit; and

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data transmitting control means for transmitting data, when an emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel,

said communication control unit having:

means for controlling a communication cycle;

communication order allocation means for allocating said communication order to said call terminal and said mating terminal corresponding to said allocation request of the communication order to said call terminal and said mating terminal from said call terminal; and

communication order notifying means for notifying each of said plural communication terminals of said communication order allocated by said communication order allocation means.

47. (Original) The communication system according to claim 46, wherein

each of said plural communication terminals has a data transmission detecting means for detecting whether or not a communication terminal having a higher communication order than itself transmits data, and

if said data transmission detecting means detects that the communication terminal having a higher communication order than itself transmits data, said empty time setting means resets said empty time set in itself shorter corresponding to said communication order allocated.

48. (Currently Amended)  The communication system according to claim 47, wherein

each of said plural communication terminals has a random access control means for

if it is intended to transmit real time data ~~such as voice data and image data~~, transmitting said data at timing corresponding to said empty time by control of said transmission control means, and

if it is intended to transmit random data generated at random by random access, transmitting the random data through random access region other than the real time region for transmitting said real time data in said communication cycle.

49. (Original) The communication system according to claim 48, wherein

said real time region for transmitting said real time data is set up successively each time when said communication timing is set up by said communication control unit in said communication cycle, and

said random access control means of said communication terminal uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

50. (Original) The communication system according to claim 48, wherein each of said plural communication terminals comprises a re-transmission control means for, if said real time data transmitted through said real time region by control of said data transmission control means is not received properly, re-transmitting said real time data not received properly to said mating terminal through said random access region.

51. (Original) The communication system according to claim 47, wherein

said channel uses a carrier having a same predetermined frequency, and

each of said plural communication terminals has a carrier detecting means for detecting presence or absence of said carrier on said channel and avoiding a collision of use of said channel corresponding to this detection result.

52. (Currently Amended) A communication terminal of communication system, wherein

at least a communication control unit and a plurality of communication terminals share a channel and each of said plurality of communication terminals carries out communication at every predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

allocation request means for, prior to start-up of data communication, generating a communication timing allocation request and transmitting this to said communication control unit; and

transmission control means for transmitting data at said communication timing allocated by said communication control unit at every said communication cycle;

whereby said terminal is operable to receive, for each iteration of said communication cycle, communication timing allocation information for one or more other communication terminals sharing said channel.

53. (Previously Presented)    A    communication    terminal, wherein

plural communication terminals share a single channel to communicate at a predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

communication timing allocation means for prior to start-up of data communication, allocating communication timing to itself and notifying other communication terminals of this; and

transmission control means for transmitting data at said communication timing at every communication cycle.

54. (Currently Amended)    The    communication    terminal according to claim 52 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by control of said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting through random access region other than the real time region for transmitting said real time data in said communication cycle.

55. (Original) The    communication    terminal    according    to claim 54, wherein

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said real time region for transmitting said real time data is set up successively in said communication cycle each time when said communication timing is set up, and

said random access control means uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

56. (Original) The communication terminal according to claim 54 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

57. (Original) The communication terminal according to claim 52, wherein

said channel uses a carrier having a same predetermined frequency,

said communication terminal further comprising a carrier detecting means for detecting presence or absence of said carrier on said channel and avoiding a collision of use of said shared channel corresponding to this detection result.

58. (Currently Amended) The communication terminal according to claim 53 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by control of said transmission control means based on said communication timing, and

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if data to be transmitted is random data generated at random, transmitting through random access region other than the real time region for transmitting said real time data in said communication cycle.

59. (Original) The communication terminal according to claim 58, wherein

said real time region for transmitting said real time data is set up successively each time when said communication timing is set up in said communication cycle, and

said random access control means uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

60. (Original) The communication terminal according to claim 58 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

61. (Original) The communication terminal according to claim 53, wherein

said channel uses a carrier having a same predetermined frequency,

further comprising a carrier detecting means for detecting presence or absence of said carrier on said channel to avoid a collision of use of said shared channel based on the result of the detection.

62. (Previously Presented)    A communication terminal of a communication system, wherein

at least a communication control unit and a plurality of communication terminals share a channel and each of said plurality of communication terminals carries out bi-directional communication at every predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

communication request means for forming a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

allocation request means for, if a response from said mating terminal is returned corresponding to said communication request formed by said communication request means, forming a communication timing allocation request to itself which is a call terminal and said mating terminal and transmitting this to said communication control unit;

responding means for, when responding to a communication request transmitted to itself, forming a response to be returned to said call terminal and transmitting this to said call terminal; and

transmission control means for transmitting data corresponding to communication timing sent from said communication control unit to itself.

63. (Previously Presented)    A communication terminal of a communication system, wherein

a plurality of communication terminals share a single channel communicate bi-directionally at a predetermined

communication cycle while avoiding a collision with each other, comprising:

communication request means for forming a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

communication timing allocation means for, if a response from said mating terminal is returned corresponding to said communication request formed by said communication request means, allocating communication timing to itself which is a call terminal and said mating terminal and notifying other communication terminals of this;

responding means for, when responding to a communication request transmitted to itself, forming a response to be returned to said call terminal and transmitting this to said call terminal; and

transmission control means for transmitting data corresponding to said communication timing.

64. (Currently Amended) The communication terminal according to claim 62 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, controlling to transmit through a random access region other than the real time region for transmitting said real time data.

65. (Original) The communication terminal according to claim 64, wherein

said real time region for transmitting said real time data is set up successively each time when said communication timing is set up, and

said random access control means uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

66. (Original) The communication terminal according to claim 64 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

67. (Original) The communication terminal according to claim 62, wherein

said channel uses a carrier having same predetermined frequency and a carrier detecting means for detecting presence or absence of said carrier on said channel to avoid a collision of use of said channel is further provided.

68. (Currently Amended) The communication terminal according to claim 63 further comprising a random access control means for

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting through a random access region other than the real time region for transmitting said real time data in said communication cycle.

69. (Original) The communication terminal according to claim 68, wherein

said real time region for transmitting said real time data is set up successively each time when said communication order is set up in said communication cycle, and

said random access control means uses a remaining portion of said communication cycle in which said real time region is set up as said random access region.

70. (Original) The communication terminal according to claim 68 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

71. (Original) The communication terminal according to claim 63, wherein

said channel uses a carrier having same predetermined frequency and a carrier detecting means for detecting presence or absence of said carrier on said channel to avoid a collision of use of said channel is further provided.

72. (Previously Presented)   A communication terminal of a communication system, wherein

at least a communication control unit and a plurality of communication terminals share a channel and each of said plurality of communication terminals carries out communication at every predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

allocation request means for, prior to start-up of data communication, generating a communication order allocation request and transmitting this to said communication control unit;

empty time setting means of setting the length of an empty time of said channel capable of starting transmission of data corresponding to said communication order allocated by said communication control unit; and

data transmitting control means for, if emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel at every communication cycle, transmitting data.

73. (Previously Presented)     A     communication     terminal, wherein

a plurality of communication terminals share a single channel carry out communication at a predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

communication order allocation means for, prior to start-up of data communication, allocating communication order to itself and notifying other communication terminals of this;

empty time setting means of setting the length of an empty time of said channel capable for starting transmission of data corresponding to said communication order allocated; and

data transmitting control means for, if emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel at every communication cycle, transmitting data.

74. (Original) The communication terminal according to claim 72 further comprising a data transmission detecting means for detecting whether or not a communication terminal having a higher communication order than itself transmits data, wherein

if said data transmission detecting means detects that the communication terminal having a higher communication order than itself transmits data, said empty time setting means resets said empty time set in itself shorter corresponding to said communication order allocated.

75. (Currently Amended) The communication terminal according to claim 72 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting it through a random access region other than the real time region for transmitting said real time data.

76. (Original) The communication terminal according to claim 75, wherein

said real time region for transmitting said real time data is set up successively each time in said communication cycle when said communication timing is set up,

said random access control means using a remaining portion of said communication cycle in which said real time region is set up as said random access region.

77. (Original) The communication terminal according to claim 75 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said data transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

78. (Currently Amended) The communication terminal according to claim ~~64, 65, 66, 67, or~~ 72, wherein said channel uses a carrier having a same predetermined frequency and detection of said empty time is carried out by detecting absence of said carrier on said channel.

79. (Original) The communication terminal according to claim 73 further comprising a data transmission detecting means for detecting whether or not a communication terminal having a higher communication order than itself transmits data, wherein

if said data transmission detecting means detects that the communication terminal having a higher communication order than itself transmits data, said empty time setting means resets said empty time set in itself shorter corresponding to said communication order allocated.

80. (Currently Amended) The communication terminal according to claim 73 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said data transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting through a random access region other than the real time region for transmitting said real time data in said communication cycle.

81. (Original) The communication terminal according to claim 80, wherein

said real time region for transmitting said real time data is set up successively each time when said communication timing is set up in said communication cycle,

said random access control means using a remaining section of said communication cycle in which said real time region is set up as said random access region.

82. (Original) The communication terminal according to claim 80 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by a control of said transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

83. (Original) The communication terminal according to claim 73, wherein said channel uses a carrier having a same predetermined frequency and detection of said empty time is carried out by detecting absence of said carrier on said channel.

84. (Previously Presented)     A communication terminal of a communication system, wherein

at least a communication control unit and a plurality of communication terminals share a channel and each of said plurality of communication terminals carries out bi-directional communication at every predetermined communication cycle while avoiding a collision with other communication terminals, comprising:

communication request means for forming a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

allocation request means for, if a response from said mating terminal is returned corresponding to said communication request formed by said communication request means, forming a communication order allocation request to itself which is a call terminal and said mating terminal and transmitting this to said communication control unit;

responding means for, when responding to a communication request transmitted to itself, forming a response to be returned to said call terminal and transmitting this to said call terminal;

empty time setting means of setting the length of an empty time of said channel capable of starting transmission of data corresponding to said communication order allocated to itself by said communication control unit; and

data transmitting control means for, if an emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel, transmitting data.

85. (Previously Presented)    A communication terminal of a communication system, wherein

a plurality of communication terminals share a single channel communicate bi-directionally at a predetermined communication cycle while avoiding a collision with each other, comprising:

communication request means for forming a communication request for calling a mating terminal of an object and transmitting this to said mating terminal by random access;

communication timing allocation means for, if a response from said mating terminal is returned corresponding to said communication request formed by said communication request means, allocating communication order to itself which is a call terminal and said mating terminal and notifying other communication terminals of this;

responding means for, when responding to a communication request for itself, forming a response to be returned to said call terminal and transmitting this to said call terminal;

empty time setting means of setting the length of an empty time of said channel capable of starting transmission of data corresponding to said communication order allocated; and

data transmission control means for, if emptiness of the same length as that of said empty time set up by said empty time setting means is detected on said channel, transmitting data.

86. (Original) The communication terminal according to claim 84 further comprising a data transmission detecting means

for detecting whether or not a communication terminal having a higher communication order than itself transmits data, wherein

if said data transmission detecting means detects that the communication terminal having a higher communication order than itself transmits data, said empty time setting means resets said empty time set in itself shorter corresponding to said communication order allocated.

87. (Currently Amended) The communication terminal according to claim 84 further comprising a random access control means for

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting through a random access region other than the real time region for transmitting said real time data.

88. (Original) The communication terminal according to claim 87, wherein

said real time region for transmitting said real time data is set up successively each time when said communication order is set up,

said random access control means using a remaining portion of said communication cycle in which said real time region is set up as said random access region.

89. (Original) The communication terminal according to claim 87 further comprising a re-transmission control means for,

if said real time data transmitted through said real time region by control of said data transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

90. (Original) The communication terminal according to claim 84, wherein said channel uses a carrier having a same predetermined frequency and detection of said empty time is carried out by detecting absence of said carrier on said channel.

91. (Original) The communication terminal according to claim 85 further comprising a data transmission detecting means for detecting whether or not a communication terminal having a higher communication order than itself transmits data, wherein

if said data transmission detecting means detects that the communication terminal having a higher communication order than itself transmits data, said empty time setting means resets said empty time shorter corresponding to said communication order allocated.

92. (Currently Amended) The communication terminal according to claim 85 further comprising a random access control means for,

if data to be transmitted is real time data ~~such as voice data and image data~~, transmitting said real time data by said transmission control means based on said communication timing, and

if data to be transmitted is random data generated at random, transmitting through a random access region other than the real time region for transmitting said real time data in said communication cycle.

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93. (Original) The communication terminal according to claim 92, wherein

said real time region for transmitting said real time data is set up successively each time when said communication order is set up in said communication cycle,

said random access control means using a remaining portion of said communication cycle in which said real time region is set up as said random access region.

94. (Original) The communication terminal according to claim 92 further comprising a re-transmission control means for, if said real time data transmitted through said real time region by control of said data transmission control means is not received properly, re-transmitting said real time data not received properly through said random access region.

95. (Original) The communication terminal according to claim 85, wherein said channel uses a carrier having a same predetermined frequency and detection of said empty time is carried out by detecting absence of said carrier on said channel.

96. (Currently Amended) A communication control unit of communication system, wherein

a plurality of communication terminals share a channel and each of said plurality of communication terminals carries out communication at every predetermined communication cycle while avoiding a collision with each other, comprising:

means for controlling said communication cycle;

communication timing allocation means for allocating communication timing to said communication terminal of a requester corresponding to a communication timing allocation request from each of said plural communication terminals; and

communication timing notifying means for notifying each of said plural communication terminals of said communication timing allocated by said communication timing allocation means;

whereby said notifying is performed for each iteration of said communication cycle.

97. (Currently Amended) A communication control unit of a communication system, wherein

a plurality of communication terminals share a channel and each of said plural communication terminals carries out communication at every predetermined communication cycle while avoiding a collision with each other, comprising:

means for controlling said communication cycle;

communication order allocation means for allocating a communication order to said communication terminal of a requester corresponding to a communication order allocation request from each of said plural communication terminals; and

communication order notifying means for notifying each of said plural communication terminals of said communication order allocated by said communication order allocation means;

whereby said notifying is performed for each iteration of said communication cycle.